

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. When strikethrough cannot easily be perceived, or when five or fewer characters are deleted, [[double brackets]] are used to show the deletion. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 21 and 40 in accordance with the following:

1. (CANCELLED)

2. (PREVIOUSLY PRESENTED) A switching regulator according to claim 7, wherein the switching regulator further comprises a display unit that displays when the main switch and the synchronous switch are simultaneously turned on.

3. (PREVIOUSLY PRESENTED) A switching regulator according to claim 7, wherein the switching regulator further comprises an operation stop circuit that stops a conversion operation of the switching regulator in a case where the main switch and the synchronous switch are simultaneously turned on.

4. (PREVIOUSLY PRESENTED) A switching regulator according to claim 7, wherein the detection circuit monitors at least one of the main switch and the synchronous switch.

5. (PREVIOUSLY PRESENTED) A switching regulator according to claim 7, wherein the detection circuit monitors a direction of a current conducting through the synchronous switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

6. (PREVIOUSLY PRESENTED) A switching regulator according to claim 7, wherein the detection circuit monitors a magnitude of a current conducting through the main switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

7. (PREVIOUSLY PRESENTED) A switching regulator, comprising:

- a main switch;
- a synchronous switch, where the main switch and the synchronous switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and
- a detection circuit that detects when the main switch and the synchronous switch are simultaneously turned on,

wherein the detection circuit monitors a driving signal that drives the main switch and the synchronous switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

8. (CANCELLED)

9. (PREVIOUSLY PRESENTED) A switching regulator according to claim 14, wherein the switching regulator further comprises detection result output that outputs a detection result of the detection circuit.

10. (PREVIOUSLY PRESENTED) A switching regulator according to claim 14, wherein the switching regulator further comprises an operation stop circuit that stops a conversion operation of the switching regulator in a case where the main switch and the synchronous switch are simultaneously turned on.

11. (PREVIOUSLY PRESENTED D) A switching regulator according to claim 14, wherein the detection circuit monitors at least one of the main switch and the synchronous switch.

12. (PREVIOUSLY PRESENTED) A switching regulator according to claim 14, wherein the detection circuit monitors a direction of a current conducting through the synchronous switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

13. (PREVIOUSLY PRESENTED) A switching regulator according to claim 14, wherein the detection circuit monitors a magnitude of a current conducting through the main switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

14. (PREVIOUSLY PRESENTED) A switching regulator, comprising:

a main switch;

a synchronous switch where the main switch and the synchronous switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and

a switching control circuit that controls the main switch and the synchronous switch, comprising a detection circuit that detects a state that the main switch and the synchronous switch are simultaneously turned on,

wherein the detection circuit monitors a driving signal that drives the main switch and the synchronous switch to detect the state that the main switch and the synchronous switch are simultaneously turned on.

15. (CANCELLED)

16. (PREVIOUSLY PRESENTED) A monitor circuit according to claim 21, wherein the monitor circuit further comprises a detection result output that outputs a detection result of the detection circuit.

17. (PREVIOUSLY PRESENTED) A monitor circuit according to claim 21, wherein the monitor circuit further comprises an operation stop circuit that stops a conversion operation of the switching regulator in a case where the main switch and the synchronous switch are simultaneously turned on.

18. (PREVIOUSLY PRESENTED) A monitor circuit according to claim 21, wherein the detection circuit monitors at least one of the main switch and the synchronous switch.

19. (PREVIOUSLY PRESENTED) A monitor circuit according to claim 21, wherein the detection circuit monitors a direction of a current conducting through the synchronous switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

20. (PREVIOUSLY PRESENTED) A monitor circuit according to claim 21, wherein the detection circuit monitors a magnitude of a current conducting through the main switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

21. (CURRENTLY AMENDED) A monitor circuit for a switching regulator, comprising:
a main switch; and

a synchronous switch, both of which are alternately turned on so that a voltage of a DC electric power is transformed and output, the monitor circuit comprising a detection circuit that detects a state that the main switch and the synchronous ~~rectifying~~ switch are simultaneously turned on,

wherein the detection circuit monitors a driving signal that drives the main switch and the synchronous switch to detect the state that the main switch and the synchronous switch are simultaneously turned on.

22. (CANCELLED)

23. (PREVIOUSLY PRESENTED) An electronic equipment according to claim 28, wherein the electronic equipment further comprises a display unit that displays that the main switch and the synchronous switch are simultaneously turned on.

24. (PREVIOUSLY PRESENTED) An electronic equipment according to claim 28, wherein the electronic equipment further comprises an operation stop circuit that stops a conversion operation of the switching regulator in a case where the main switch and the synchronous switch are simultaneously turned on.

25. (PREVIOUSLY PRESENTED) An electronic equipment according to claim 28, wherein the detection circuit monitors at least one of the main switch and the synchronous switch.

26. (PREVIOUSLY PRESENTED) An electronic equipment according to claim 28, wherein the detection circuit monitors a direction of a current conducting through the

synchronous switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

27. (PREVIOUSLY PRESENTED) An electronic equipment according to claim 28, wherein the detection circuit monitors a magnitude of a current conducting through the main switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

28. (PREVIOUSLY PRESENTED) An electronic equipment, comprising:
a switching regulator;
a main switch;
a synchronous switch, where the main switch and the synchronous switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and
a detection circuit that detects when the main switch and the synchronous switch are simultaneously turned on, wherein the electronic equipment is operative with an electronic power from the switching regulator,
wherein the detection circuit monitors a driving signal that drives the main switch and the synchronous switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

29. (CANCELLED)

30. (PREVIOUSLY PRESENTED) A method of monitoring a switching regulator according to claim 35, further comprising displaying in accordance with the detecting, that the main switch and the synchronous switch are simultaneously turned on.

31. (PREVIOUSLY PRESENTED) A method of monitoring a switching regulator according to claim 35, wherein a conversion operation of the switching regulator is stopped in accordance with the detecting.

32. (PREVIOUSLY PRESENTED) A method of monitoring a switching regulator according to claim 35, wherein the detecting monitors at least one of the main switch and the synchronous switch.

33. (PREVIOUSLY PRESENTED) A method of monitoring a switching regulator according to claim 35, wherein the detecting monitors a direction of a current conducting through the synchronous switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

34. (PREVIOUSLY PRESENTED) A method of monitoring a switching regulator according to claim 35, wherein the detecting monitors a magnitude of a current conducting through the main switch to detect a state that the main switch and the synchronous switch are simultaneously turned on.

35. (PREVIOUSLY PRESENTED) A method of monitoring a switching regulator, comprising:

turning on a main switch;

turning on a synchronous switch, wherein the main switch and the synchronous switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and

detecting a state that the main switch and the synchronous rectifying switch are simultaneously turned on is detected,

wherein the detecting monitors a driving signal driving the main switch and the synchronous switch to detect the state that the main switch and the synchronous switch are simultaneously turned on.

36. (PREVIOUSLY PRESENTED) A switching regulator, comprising:

a first switch;

an inductor which is connected in series with the first switch;

a second switch disposed between a connecting point of the first switch with the inductor and a ground point, in which the first switch and the second switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and

a detection circuit that detects a state that the first switch and the second switch are simultaneously turned on,

wherein the detection circuit monitors a driving signal that drives the first switch and the second switch to detect the state that the first switch and the second switch are simultaneously turned on.

37. (PREVIOUSLY PRESENTED) A switching regulator control circuit, comprising:

a first switch connected in series to an inductor;

a second switch disposed between a connecting point of the first switch with the inductor and a ground point where the first switch and the second switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and

a detection circuit that detects when the first switch and the second switch are simultaneously turned on,

wherein the detection circuit monitors a driving signal that drives the first switch and the second switch to detect a state that the first switch and the second switch are simultaneously turned on.

38. (PREVIOUSLY PRESENTED) A monitor circuit for a switching regulator control circuit, comprising:

a first switch connected in series to an inductor;

a second switch disposed between a connecting point of the first switch with the inductor and a ground point where the first switch and the second switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and

a detection circuit that detects when the first switch and the second switch are simultaneously turned on,

wherein the detection circuit monitors a driving signal that drives the first switch and the second switch to detect a state that the first switch and the second switch are simultaneously turned on.

39. (PREVIOUSLY PRESENTED) An electronic equipment, comprising:

a switching regulator, comprising

a first switch;

an inductor which is connected in series with the first switch;
a second switch disposed between a connecting point of the first switch with the inductor and a ground point, in which the first switch and the second switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and

a detection circuit that detects a state that the first switch and the second switch are simultaneously turned on, wherein the electronic equipment is operative with an electronic power from the DC-DC converter,

wherein the detection circuit monitors a driving signal that drives the first switch and the second switch to detect the state that the first switch and the second switch are simultaneously turned on.

40. (CURRENTLY AMENDED) A method of monitoring a switching regulator, comprising:

turning on a first switch and an inductor which are connected in series;

turning on a second switch disposed between a connecting point of the first switch with the inductor and a ground point, wherein the first switch and the second switch are alternately turned on so that a voltage of a DC electric power is transformed and output; and

~~monitoring a driving signal that drives the first switch and the second switch to detect detecting a state that in which~~ the first switch and the second switch are simultaneously turned on.